

## **RAW SEQUENCE LISTING**

**The Biotechnology Systems Branch of the Scientific and Technical  
Information Center (STIC) no errors detected.**

Application Serial Number: 10/750,262

Source: \_\_\_\_\_

Date Processed by STIC: \_\_\_\_\_

# ***ENTERED***



IFWO

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/750,262

DATE: 12/03/2004

TIME: 07:19:56

Input Set : N:\Cr3\RULE60\10750262.raw.txt

Output Set: N:\CRF4\12032004\J750262.raw

```

1 <110> APPLICANT: Daniel E. Afar
2     Rene S. Hubert
3     Kahan Leong
4     Arthur B. Raitano
5     Douglas C. Saffran
6     Steve Chappell Mitchell
7 <120> TITLE OF INVENTION: NOVEL SERPENTINE TRANSMEMBRANE ANTIGENS
8     EXPRESSED IN HUMAN CANCERS AND USES THEREOF
9 <130> FILE REFERENCE: 129.16USU2
10 <140> CURRENT APPLICATION NUMBER: US/10/750,262
11 <141> CURRENT FILING DATE: 2003-12-31
12 <150> PRIOR APPLICATION NUMBER: US/09/323,873
13 <151> PRIOR FILING DATE: 1999-06-01
14 <150> PRIOR APPLICATION NUMBER: 60/087,520
15 <151> PRIOR FILING DATE: 1998-06-01
16 <150> PRIOR APPLICATION NUMBER: 60/091,183
17 <151> PRIOR FILING DATE: 1998-06-30
18 <160> NUMBER OF SEQ ID NOS: 32
19 <170> SOFTWARE: FastSEQ for Windows Version 4.0
21 <210> SEQ ID NO: 1
22 <211> LENGTH: 1195
23 <212> TYPE: DNA
24 <213> ORGANISM: Homo Sapiens
25 <400> SEQUENCE: 1
26     ccgagactca cggcgaagct aaggcgaaga gtgggtggct gaagccatac tattttatag      60
27     aattaatgga aagcagaaaa gacatcacaa accaagaaga actttggaaa atgaagccta      120
28     ggagaaattt agaagaagac gattatttgc ataaggacac gggagagacc agcatgctaa      180
29     aaagacctgt gcttttgcac ttgcacaaa cagcccatgc tgatgaattt gactgccctt      240
30     cagaacttca gcacacacag gaactctttc cacagtggca cttgccaatt aaaatagctg      300
31     ctattatagc atctctgact tttctttaca ctcttctgag ggaagtaatt caccctttag      360
32     caacttccca tcaacaatat tttataaaaa ttccaatcct ggcatcaaac aaagtcttgc      420
33     caatgggttc catcactctc ttggcattgg tttacctgcc aggtgtgata gcagcaattg      480
34     tccaacttca taatggaacc aagtataaga agtttccaca ttgggtggat aagtggatgt      540
35     taacaagaaa gcagtttggg cttctcagtt tcttttttgc tgtactgcat gcaatttata      600
36     gtctgtctta cccaatgagg cgatcctaca gatacaagtt gctaaactgg gcatatcaac      660
37     aggtccaaca aaataaagaa gatgcctgga ttgagcatga tgtttggaga atggagattt      720
38     atgtgtctct ggggaattgtg ggattggcaa tactggctct gttggctgtg acatctattc      780
39     catctgtgag tgactctttg acatggagag aatttcacta tattcagagc aagctaggaa      840
40     ttgtttccct tctactgggc acaatacacg cattgatatt tgccctggaat aagtggatag      900
41     atataaaaaca atttgtatgg tatacacctc caacttttat gatagctgtt ttccttccaa      960
42     ttgttgtcct gatattttaa agcatactat toctgccatg cttgaggaag aagatactga     1020
43     agattagaca tggttgggaa gacgtcacca aaattaacaa aactgagata tgttcccagt     1080
44     tgtagaatta ctgtttacac acatttttgt tcaatattga tatattttat caccaacatt     1140

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45      tcaagtttgt atttgtaaat aaaatgatta ttcaaggaaa aaaaaaaaaa aaaaa      1195
47 <210> SEQ ID NO: 2
48 <211> LENGTH: 339
49 <212> TYPE: PRT
50 <213> ORGANISM: Homo Sapiens
51 <400> SEQUENCE: 2
52      Met Glu Ser Arg Lys Asp Ile Thr Asn Gln Glu Glu Leu Trp Lys Met
53      1          5          10          15
54      Lys Pro Arg Arg Asn Leu Glu Glu Asp Asp Tyr Leu His Lys Asp Thr
55      20          25          30
56      Gly Glu Thr Ser Met Leu Lys Arg Pro Val Leu Leu His Leu His Gln
57      35          40          45
58      Thr Ala His Ala Asp Glu Phe Asp Cys Pro Ser Glu Leu Gln His Thr
59      50          55          60
60      Gln Glu Leu Phe Pro Gln Trp His Leu Pro Ile Lys Ile Ala Ala Ile
61      65          70          75          80
62      Ile Ala Ser Leu Thr Phe Leu Tyr Thr Leu Leu Arg Glu Val Ile His
63      85          90          95
64      Pro Leu Ala Thr Ser His Gln Gln Tyr Phe Tyr Lys Ile Pro Ile Leu
65      100         105         110
66      Val Ile Asn Lys Val Leu Pro Met Val Ser Ile Thr Leu Leu Ala Leu
67      115         120         125
68      Val Tyr Leu Pro Gly Val Ile Ala Ala Ile Val Gln Leu His Asn Gly
69      130         135         140
70      Thr Lys Tyr Lys Lys Phe Pro His Trp Leu Asp Lys Trp Met Leu Thr
71      145         150         155         160
72      Arg Lys Gln Phe Gly Leu Leu Ser Phe Phe Phe Ala Val Leu His Ala
73      165         170         175
74      Ile Tyr Ser Leu Ser Tyr Pro Met Arg Arg Ser Tyr Arg Tyr Lys Leu
75      180         185         190
76      Leu Asn Trp Ala Tyr Gln Gln Val Gln Gln Asn Lys Glu Asp Ala Trp
77      195         200         205
78      Ile Glu His Asp Val Trp Arg Met Glu Ile Tyr Val Ser Leu Gly Ile
79      210         215         220
80      Val Gly Leu Ala Ile Leu Ala Leu Leu Ala Val Thr Ser Ile Pro Ser
81      225         230         235         240
82      Val Ser Asp Ser Leu Thr Trp Arg Glu Phe His Tyr Ile Gln Ser Lys
83      245         250         255
84      Leu Gly Ile Val Ser Leu Leu Leu Gly Thr Ile His Ala Leu Ile Phe
85      260         265         270
86      Ala Trp Asn Lys Trp Ile Asp Ile Lys Gln Phe Val Trp Tyr Thr Pro
87      275         280         285
88      Pro Thr Phe Met Ile Ala Val Phe Leu Pro Ile Val Val Leu Ile Phe
89      290         295         300
90      Lys Ser Ile Leu Phe Leu Pro Cys Leu Arg Lys Lys Ile Leu Lys Ile
91      305         310         315         320
92      Arg His Gly Trp Glu Asp Val Thr Lys Ile Asn Lys Thr Glu Ile Cys
93      325         330         335
94      Ser Gln Leu

```

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/750,262

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Input Set : N:\Crif3\RULE60\10750262.raw.txt

Output Set: N:\CRF4\12032004\J750262.raw

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96 <210> SEQ ID NO: 3
97 <211> LENGTH: 111
98 <212> TYPE: DNA
99 <213> ORGANISM: Homo Sapiens
100 <400> SEQUENCE: 3
101      ggcggaggcg gagggcggagg gcgaggggagc gggagcgccg cctggagcgc ggcaggtcat      60
102      attgaacatt ccagatacct atcattactc gatgctgttg ataacagcaa g      111
104 <210> SEQ ID NO: 4
105 <211> LENGTH: 24
106 <212> TYPE: DNA
107 <213> ORGANISM: Artificial Sequence
108 <220> FEATURE:
109 <223> OTHER INFORMATION: RT-PCR primer 8P1D4.1
110 <400> SEQUENCE: 4
111      actttgttga tgaccaggat tgga      24
113 <210> SEQ ID NO: 5
114 <211> LENGTH: 24
115 <212> TYPE: DNA
116 <213> ORGANISM: Artificial Sequence
117 <220> FEATURE:
118 <223> OTHER INFORMATION: RT-PCR primer 8P1D4.2
119 <400> SEQUENCE: 5
120      cagaacttca gcacacacag gaac      24
122 <210> SEQ ID NO: 6
123 <211> LENGTH: 3627
124 <212> TYPE: DNA
125 <213> ORGANISM: Homo Sapiens
126 <400> SEQUENCE: 6
127      ggggcccgca cctctgggca gcagcggcag ccgagactca cggcgaagct aaggcgaaga      60
128      gtgggtggct gaagccatac tattttatag aattaatgga aagcagaaaa gacatcacaa      120
129      accaagaaga actttggaaa atgaagccta ggagaaattt agaagaagac gattatttgc      180
130      ataaggacac gggagagacc agcatgctaa aaagacctgt gcttttgcac ttgcacacaa      240
131      cagcccatgc tgatgaattt gactgccctt cagaacttca gcacacacag gaactctttc      300
132      cacagtggca cttgcccaatt aaaatagctg ctattatagc atctctgact tttctttaca      360
133      ctcttctgag ggaagtaatt cacccttag caacttccca tcaacaatat ttttataaaa      420
134      ttccaatcct ggtcatcaac aaagtcttgc caatgggttc catcactctc ttggcattgg      480
135      tttacctgcc aggtgtgata gcagcaattg tccaacttca taatggaacc aagtataaga      540
136      agtttccaca ttggttggat aagtggatgt taacaagaaa gcagtttggg ctctcagtt      600
137      tcttttttgc tgtactgcat gcaatttata gtctgtctta cccaatgagg cgatcctaca      660
138      gatacaagtt gctaaactgg gcatatcaac aggtccaaca aaataaagaa gatgcctgga      720
139      ttgagcatga tgtttggaga atggagattt atgtgtctct gggaattgtg ggattggcaa      780
140      tactggctct gttggctgtg acatctattc catctgtgag tgactctttg acatggagag      840
141      aatttcacta tattcaggta aataatatat aaaataaccc taagaggtaa atcttctttt      900
142      tgtgtttatg atatagaata tgttgacttt accccataaa aaataacaaa tgtttttcaa      960
143      cagcaaagat cttatacttg ttccaattaa taatgtgctc tcctgttggt ttccctattg      1020
144      cttctaatta ggacaagtgt ttocctagaca taaataaaag gcattaaaat attctttggt      1080
145      tttttttttt tgtttgtttg tttttgtttt gtttgtttgt ttttttgaga tgaagtctcg      1140
146      ctctgttgcc catgctggag tacagtggca cgatctcggc tcaactgcaac ctgcgcctcc      1200
147      tgggttcagg cgattctctt gcctcagcct cctgagtagc tgggattaca ggcacccatc      1260

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Input Set : N:\Crif3\RULE60\10750262.raw.txt

Output Set: N:\CRF4\12032004\J750262.raw

148	accatgtcca	gctaattttt	gtatttttag	tagagacagg	gttttcccat	gttggccagg	1320
149	ctggtctcga	tctcctgacc	tcaaatgata	cgccacctc	ggcctcccaa	agtgtctgga	1380
150	tgacagttgt	gagccaccac	actcagcctg	ctctttctaa	tatttgaaac	ttgttagaca	1440
151	atttgctacc	catctaattg	gatatttttag	gaatccaata	tgcatgggtt	attatttctt	1500
152	aaaaaaaaata	ttctttttacc	tgtcacctga	atttagtaat	gcctttttatg	ttacacaact	1560
153	tagcactttc	cagaaacaaa	aactctctcc	ttgaaataat	agagttttta	tctaccaaag	1620
154	atatgctagt	gtctcatttc	aaaggctgct	ttttccagct	tacattttat	atacttactc	1680
155	acttgaagtt	tctaaatatt	cttgtaattt	taaaactatc	tcagattttac	tgaggtttat	1740
156	cttctgggtg	tagattatcc	ataagaagag	tgatgtgcca	gaatcactct	gggatccttg	1800
157	tctgacaaga	ttcaaaggac	taaattta	tcagtcatga	acactgccaa	ttaccgttta	1860
158	tgggttagaca	tctttggaaa	tttcacaca	gtcagacatt	cgcaactatc	ccttctacat	1920
159	gtccacacgt	atactccaac	actttattag	gcactctgatt	agtttggaaa	gtatgcctcc	1980
160	atctgaatta	gtccagtggt	gcttagagtt	ggtagaacat	tctcacagaa	tttcctaatt	2040
161	ttgtagggtc	agcctgataa	ccactggagt	tctttgggtc	tcattaaata	gctttcttca	2100
162	cacattgtct	tgctgtttac	acatatgatg	aacactgctt	tttagacttc	attaggaatt	2160
163	taggactgca	tcttgacaac	tgagcctatt	ctactatatg	tacaatacct	agcccataat	2220
164	aggtatacaa	tacacatttg	gtaaaactaa	ttttcaacca	atgacatgta	tttttcaact	2280
165	agtaacctag	aaatgtttca	cttaaaatct	gagaactggg	tacactacaa	gttaccttgg	2340
166	agattcatat	atgaaaacgc	aaacttagct	atttgattgt	attcactggg	acttaagaat	2400
167	gcgcctgaat	aattgtgagt	tcgatttggt	ctggcaggct	aatgaccatt	tccagtaaa	2460
168	tgaatagagg	tcagaagtcg	tataaaagag	gtgtgtgcag	aacaccgttg	agattacata	2520
169	ggtgaacaac	tatttttaag	caactttatt	tgtgtagtga	caaagcatcc	caatgcaggc	2580
170	tgaaatgttt	catcacatct	ctggatctct	ctattttgtg	cagacattga	aaaaattgtt	2640
171	catattat	ccatgtttatc	agaatatttg	attttttaaa	aacataggcc	aagttcattc	2700
172	acttcattat	tcattttatca	aaatcagagt	gaatcacatt	agtcgccttc	acaactgata	2760
173	aagatcactg	aagtcaaatt	gatttttgc	ataatcttca	atctacctat	atttaattga	2820
174	gaatctaaaa	tgtacaaatc	atttgtgtga	ttctgcagtg	atcctgctat	aagtaagact	2880
175	cagtcctcga	tttttaggtat	cctgtgaaaa	gcagaattaa	gacaaatata	caagagacaa	2940
176	agcacaaaaa	ataaatatca	taaggggatg	aacaaaatgg	tggagaaa	gtagacaaag	3000
177	tttttgatca	cctgccttca	aagaaaggct	gtgaattttg	ttcacttaga	cagcttggag	3060
178	acaagaaatt	acccaaaagt	aaggtgagga	ggataggcaa	aaagagcaga	aagatgtgaa	3120
179	tggacattgt	tgagaaatgt	gataggaaaa	caatcataga	taaaggattt	ccaagcaaca	3180
180	gagcatatcc	agatgaggtg	ggatgggata	aactcttatt	gaaccaatct	tcaccaat	3240
181	tgtttttctt	ttgcagagca	agctaggaat	tgtttccctt	ctactgggca	caatacacgc	3300
182	attgattttt	gcctggaata	agtggataga	tataaaacaa	tttgatggg	atacacctcc	3360
183	aacttttatg	atagctgttt	tccttccaat	tggtgtcctg	atatttaaaa	gcatactatt	3420
184	cctgccatgc	ttgaggaaga	agatactgaa	gattagacat	ggttgggaag	acgtcaccaa	3480
185	aattaacaaa	actgagatat	gttcccagtt	gtagaattac	tgtttacaca	catttttggt	3540
186	caatattgat	atattttatc	accaacattt	caagtttgta	tttgtaata	aaatgattat	3600
187	tcaaggaaaa	aaaaaaaaaa	aaaaaaa				3627
189	<210>	SEQ ID NO: 7					
190	<211>	LENGTH: 521					
191	<212>	TYPE: DNA					
192	<213>	ORGANISM: Homo Sapiens					
193	<400>	SEQUENCE: 7					
194	tgactttttac	aaaattccta	tagagattgt	gaataaaacc	ttacctatag	ttgccattac	60
195	tttgctctcc	ctagtatacc	tcgcagggtct	tctggcagct	gcttatcaac	tttattacgg	120
196	caccaagtat	aggagatttc	caccttggtt	ggaaacctgg	ttacagtgtg	gaaaacagct	180
197	tggattacta	agttttttct	tcgctatggg	ccatgttgcc	tacagcctct	gcttacccat	240

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/750,262

DATE: 12/03/2004

TIME: 07:19:56

Input Set : N:\Crif3\RULE60\10750262.raw.txt

Output Set: N:\CRF4\12032004\J750262.raw

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198      gagaagggtca gagagatatt tgtttctcaa catggcttat cagcaggttc atgcaaatat      300
199      tgaaaactct tggaatgagg aagaagtttg gagaattgaa atgtatatct cctttggcat      360
200      aatgagcctt ggcttacttt ccttcctggc agtcacttct atcccttcag tgagcaatgc      420
201      tttaaactgg agagaattca gttttattca gtctacactt ggatatgtcg ctctgctcat      480
202      aagtactttc catgttttaa tttatggatg gaaacgagct t      521
204 <210> SEQ ID NO: 8
205 <211> LENGTH: 173
206 <212> TYPE: PRT
207 <213> ORGANISM: Homo Sapiens
208 <400> SEQUENCE: 8
209      Asp Phe Tyr Lys Ile Pro Ile Glu Ile Val Asn Lys Thr Leu Pro Ile
210      1          5          10          15
211      Val Ala Ile Thr Leu Leu Ser Leu Val Tyr Leu Ala Gly Leu Leu Ala
212      20          25          30
213      Ala Ala Tyr Gln Leu Tyr Tyr Gly Thr Lys Tyr Arg Arg Phe Pro Pro
214      35          40          45
215      Trp Leu Glu Thr Trp Leu Gln Cys Arg Lys Gln Leu Gly Leu Leu Ser
216      50          55          60
217      Phe Phe Phe Ala Met Val His Val Ala Tyr Ser Leu Cys Leu Pro Met
218      65          70          75          80
219      Arg Arg Ser Glu Arg Tyr Leu Phe Leu Asn Met Ala Tyr Gln Gln Val
220      85          90          95
221      His Ala Asn Ile Glu Asn Ser Trp Asn Glu Glu Glu Val Trp Arg Ile
222      100         105         110
223      Glu Met Tyr Ile Ser Phe Gly Ile Met Ser Leu Gly Leu Leu Ser Leu
224      115         120         125
225      Leu Ala Val Thr Ser Ile Pro Ser Val Ser Asn Ala Leu Asn Trp Arg
226      130         135         140
227      Glu Phe Ser Phe Ile Gln Ser Thr Leu Gly Tyr Val Ala Leu Leu Ile
228      145         150         155         160
229      Ser Thr Phe His Val Leu Ile Tyr Gly Trp Lys Arg Ala
230      165         170
232 <210> SEQ ID NO: 9
233 <211> LENGTH: 322
234 <212> TYPE: DNA
235 <213> ORGANISM: Homo Sapiens
236 <400> SEQUENCE: 9
237      ggtcgacttt tcctttattc ctttgtcaga gatctgattc atccatatgc tagaaaccaa      60
238      cagagtgact tttaaaaaat tcctatagag attgtgaata aaaccttacc tatagttgcc      120
239      attactttgc tctccctagt ataccttgca ggtcttctgg cagctgctta tcaactttat      180
240      tacggcacca agtataggag atttccacct tggttggaaa cctgggttaca gtgtagaaaa      240
241      cagcttggat tactaagttg tttcttcgct atgggtccatg ttgcctacag cctctgctta      300
242      ccgatgagaa ggtcagagag at      322
244 <210> SEQ ID NO: 10
245 <211> LENGTH: 180
246 <212> TYPE: DNA
247 <213> ORGANISM: Homo Sapiens
248 <400> SEQUENCE: 10
249      tttgcagctt tgcagatacc cagactgagc tggaaactgga atttgtcttc ctattgactc      60

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RAW SEQUENCE LISTING ERROR SUMMARY  
PATENT APPLICATION: US/10/750,262

DATE: 12/03/2004  
TIME: 07:19:58

Input Set : N:\Crf3\RULE60\10750262.raw.txt  
Output Set: N:\CRF4\12032004\J750262.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:12; N Pos. 11,56,233,250,310,326,377,398

**VERIFICATION SUMMARY**

PATENT APPLICATION: US/10/750,262

DATE: 12/03/2004

TIME: 07:19:58

Input Set : N:\Crf3\RULE60\10750262.raw.txt

Output Set: N:\CRF4\12032004\J750262.raw

L:276 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12 after pos.:0

M:341 Repeated in SeqNo=12